

Технические характеристики на источники питания AC/DC серии GWS

По вопросам продаж и поддержки обращайтесь:

Архангельск (8182)63-90-72
Брянск (4832)59-03-52
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Калининград (4012)72-03-81
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GWS250 Series

Single Output 250W Power Supplies

- Standby Power Draw < 0.5 Watt
- High Efficiency up to 93%
- Built to meet ErP
- 41 mm height (1U compatible)
- Convection Cooled
- 5V / 300mA Aux Supply
- Output Remote Programming
- Class C Harmonics (IEC 61000-3-2) above 25% Load
- Allows Use in Lighting Equipment
- Five Year Warranty

Key Market Segments & Applications

Targets all ErP compliant applications
Industrial, Traffic Controls, Automated Service, Kiosks
Test & Measurement, Entertainment Systems,
Communications & Broadcasting, LED Displays & Signage

GWS250 Features and Benefits

Features

- Convection Cooling
- Programmable Output Voltage
- Peak Power Capability 120% (24 & 36V models)
- Average Active Efficiency @ 230V : 92.7%

Benefits

- Easier System Integration, No Audible Noise
- Broad Range of Applications
- Lower Cost, Smaller Size
- Easier System Cooling, Less Energy Used, High Reliability

Specifications

ITEMS		MODEL	GWS250
AC Input Voltage		VAC	85 - 264VAC (300VAC for 5s)
Input Frequency		Hz	47 - 63Hz
DC Input Voltage		VDC	120 - 373VDC
Inrush Current (cold start)		A	20A at 115VAC, 40A at 230VAC
Power Factor	(1)	-	Meets EN61000-3-2 (Typical PF 0.98/0.95) Class A, Class C > 25% Load
Input Current	(1)	A	3.0 / 1.4
Temperature Coefficient		°C	<0.02%/°C
Overcurrent Protection		-	>105% rated output power or >101% of peak output power
Overvoltage Protection	(2)	V	12V: 13.8 - 16.2V, 24V: 30.3 - 35.5V, 36V: 41.4 - 48.6V, 48V: 60 - 69.6V
Overtemperature Protection	(2)	-	Yes
Hold Up Time	(1)	ms	16ms
Leakage Current (Typ)		mA	0.75mA@230VAC
Remote Sense		-	No
Remote On/Off		-	Active Low
Standby Input Power	(3)	W	<0.5W
Aux Supply		-	5V/0.3A
Monitoring Signal		-	DC OK, open collector signal, High on Fail (Active Low)
LED Indicator		-	Green LED = On
Output Remote Programming		-	See installation manual for details
Operating Temperature		°C	-25°C to +70°C. (Refer to Output Derating Curve) Guaranteed Start Up at -40°C
Storage Temperature		°C	-30°C to +85°C
Operating Humidity		-	30 - 90% RH (non condensing)
Storage Humidity		-	10 - 95% RH (non condensing)
Cooling		-	Convection
Withstand Voltage		-	Input to FG 1.5kVAC (20mA), Input to Output 3kVAC (20mA), output to FG 500VAC (100mA) for 1 min
Isolation Resistance		Ω	>100MΩ at 25°C & 70%RH
Vibration (non operating)		-	10 - 55Hz: 19.6m/s² Constant sweep 1 min X, Y, Z for 1 hour each
Shock (in package)		-	< 196.1 m/s² (20G)
Immunity		-	Built to meet EN61000-4-2 (Level 2,3), -3 (Level 3), -4 (Level 3), -5 (Level 4), -6 (Level 3), -8 (Level 4), -11
Safety Agency Approvals		-	UL60950-1, CSA C22.2 No.60950-1-07 (2nd Edition), EN60950-1, IEC60950-1 (2nd Edition), CE
Conducted & Radiated EMI		-	Built to meet EN55022-B, CISPR22-B
Weight (Typ)		g	850
Size (L x W x H)		mm	198 x 105 x 41
Warranty		yrs	5

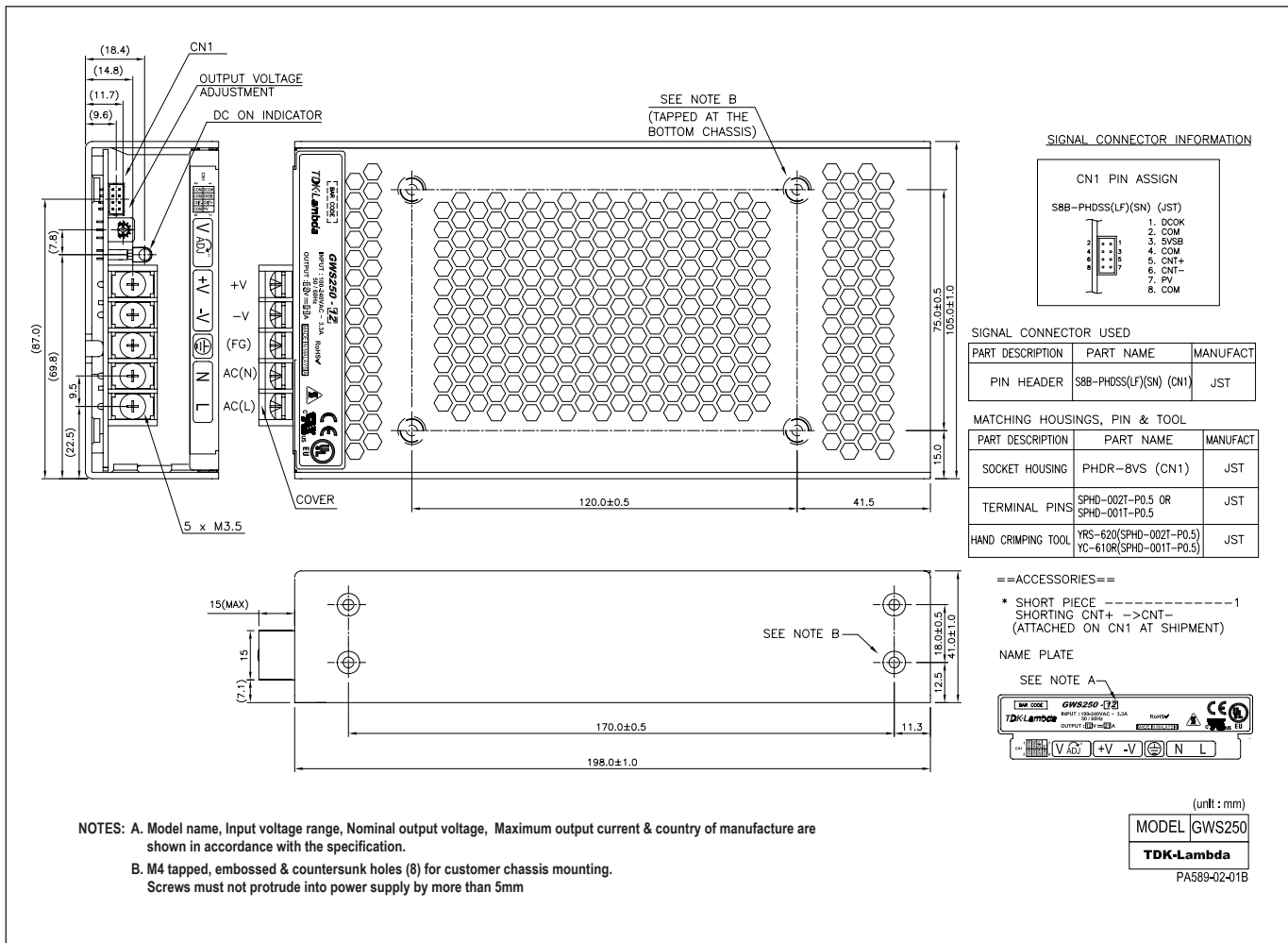
Notes: (1) 115 / 230VAC input (2) Recycle AC, or use remote on/off to reset (3) When remote off and 5V Aux supply @ no load

Model Selector

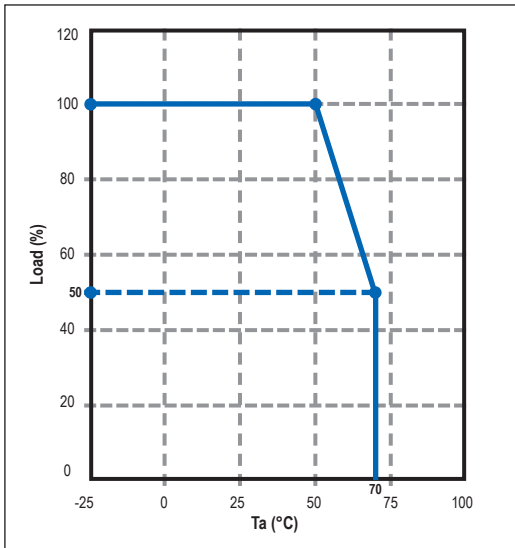
Model	Voltage (V)	Adjust Range (V)	Max Current (A)	Peak Current ⁽¹⁾ DC (A)	Load Reg. (mV)	Line Reg. (mV)	Ripple Noise (mV)	Efficiency (typ) % (230VAC)
GWS250-12	12V	10.8 - 13.2	21	-	96	48	120	92
GWS250-24	24V	22 - 28.8	10.5	12.5	192	96	150	92
GWS250-36	36V	32 - 40	7	8.4	288	144	200	93
GWS250-48	48V	42 - 57.6	5.3	-	384	192	250	93

Notes: (1) Peak current 10seconds max. 35% duty cycle max.

Outline Drawing GWS250



Output Derating Curve GWS250

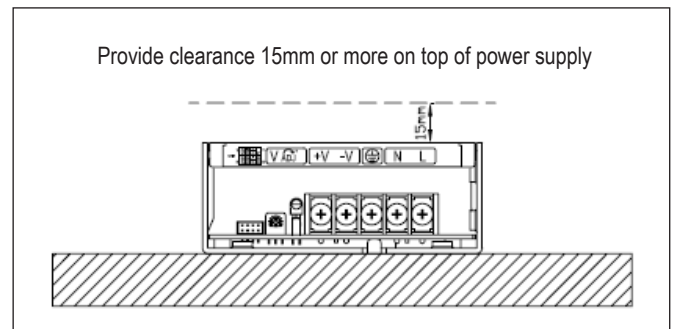
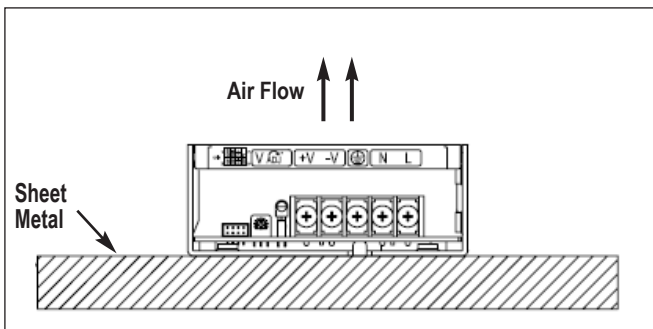


Options

Suffix	Description
/T	OTP auto recovery after unit cools down
/RL	Remote ON/OFF reverse logic (Active High)
/BAT	Battery charging for 24V (21 -29V/8.8A) & 48V (42-58V/4.4A) only
/P	Power up to 350W with system airflow of 20cfm minimum and air blowing in from opposite side of input/output connectors
/L	Without cover

Notes: GWS250-XX/YYYYYYYYYYYY where **XX** can be 12, 24, 36, or 48
Y option can be any combination of P, L, RL, CO, CO2, T, BAT, or blank

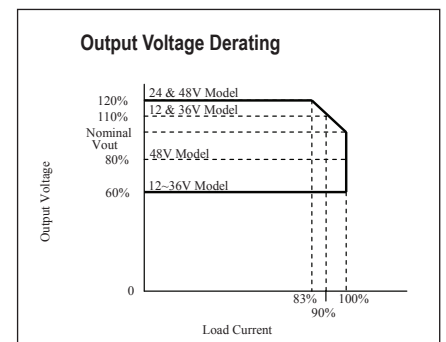
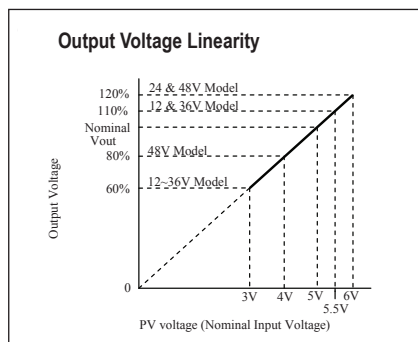
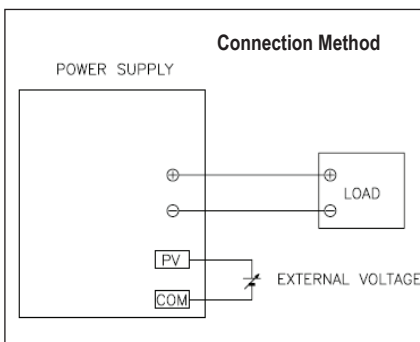
Mounting Options GWS250 - For other mounting versions please refer to Instruction Manual



Mounting Method

- 1 This is convection cooling type power supply. In consideration of the heat radiation and safety, please keep a distance of more than 15mm between the power supply and the peripheral parts. When lining up multiple units, please make sure to place them 5mm or more apart from each other
- 2 Maximum allowable penetration of mounting screws into the power-supply is 5mm
- 3 Recommended torque for mounting screws (M4): 1.27 Nm (13.0 kgf.cm)

GWS250 Output Voltage External Control (PV)



Output voltage external control function is available. Output voltage can be varied by applying an external voltage (3-6V) to 'PV' and 'COM' terminals at signal connector CN1

Please consider the following characteristics.

Notes:

For 12V & 36V output model, limit output voltage variation range at 60% - 110%. At PV voltage variation 3V - 5.5V
 For 24V output model, limit output voltage variation range at 60% - 120%. At PV voltage variation 3V - 6V
 For 48V output model, limit output voltage variation range at 80% - 120%. At PV voltage variation 4V - 6V

GWS500 Series



LED



Industrial



Test



Comm



Broadcast

Single Output 500W Power Supplies



Features	Benefits
• Compact & Flat 1U Design	• Easier System Integration
• Programmable Output Voltage	• Broad Range of Applications
• Peak Power Capability 120% (24 & 36V models)	• Lower Cost, Smaller Size
• Average Active Efficiency @ 230V: 90.3%	• ErP Compliant ⁽⁴⁾

Specification		
Model		GWS500
AC Input Voltage	VAC	85 - 264VAC (300VAC for 5s)
Input Frequency	Hz	47 - 63Hz
DC Input Voltage	VDC	120 - 373VDC
Inrush Current (cold start)	A	20A/40A at 115VAC, 40A/40A at 230VAC, Ta=25°C (First Inrush/Second Inrush)
Power Factor (1)	-	Meets EN61000-3-2 (Typical PF 0.98/0.95) Class A, Class C > 35% Load
Input Current (115/230VAC)	A	4.5 / 2.3 (for 5V model) 5.5 / 2.7 (for other models)
Temperature Coefficient	°C	<0.02%/°C (0-50°C)
Overcurrent Protection	-	Hiccup (5V-12V models) Constant Current Limit (24V-48V models) >105% rated output power or >101% of peak output power
Overvoltage Protection (2)	V	5V: 5.75 - 6.75V, 7.5V: 8.6 - 10.1V, 12V: 13.8 - 16.2V, 24V: 30.3 - 35.5V, 36V: 41.4 - 48.6V, 48V: 60 - 69.6V
Overtemperature Protection (2)	-	Yes - Shutdown Output and Manual Reset (CNT or Re-power on)
Hold Up Time (115 / 230V input)	ms	12ms (5V-7.5V) - 16ms (12V-48V)
Leakage Current (230VAC 60Hz)	mA	<0.75mA
Remote Sense	-	Yes
Remote On/Off	-	Possible (Active Low)
Standby Input Power Draw (3)	W	<0.5W
5V Standby (always on)	-	5V 0.3A
DC Good	-	DC Good, open collector signal, High on Fail
LED Indicator	-	Green LED = On
Output Remote Programming	-	By external voltage. See installation manual for details
Operating Temperature	°C	-25°C to +70°C. Derate linearly to 50% load from +50°C to +70°C (-40°C start up)
Storage Temperature	°C	-30°C to +85°C
Operating Humidity	-	30 - 90% RH (non condensing)
Storage Humidity	-	10 - 95% RH (non condensing)
Cooling	-	Forced Air by Blower Fans
Withstand Voltage	-	Input - Output : 4.25kVDC (20mA), Input - FG : 2.25kVDC (20mA) Output - FG : 500VDC (100mA) For 1min.
Isolation Resistance	Ω	>100MΩ (500VDC) at 25°C & 70%RH
Vibration (non operating)	-	10 - 55Hz: 19.6m/s ² constant sweep 1 min X, Y, Z for 1 hour
Shock	-	<196.1 m/s ² (20G)
Immunity	-	Built To Meet EN61000-4-2 (Level 2,3), -3 (Level 3), -4 (Level 3), -5 (Level 3), -6 (Level 3), -8 (Level 4), -11
Safety Agency Approvals	-	Approved by UL60950-1, CSA C22.2 No.60950-1-07 (2nd Edition), EN60950-1, IEC60950-1 (2nd Edition), CE
Conducted & Radiated EMI	-	Built to meet EN55022-B, CISPR22-B
Weight (Typ)	g	1020
Size (L x W x H)	mm	218 x 105 x 41
Warranty	yrs	5

Notes: (1) 115 / 230VAC input (2) Recycle AC, or use remote on/off to reset (3) When remote off and 5V Aux supply @ no load (4) Excludes 5V and 7.5V models.

Model Selector								
Model	Voltage (V)	Adjust ² Range (V)	Max Current (A)	Peak Curr. ¹ <10s (A)	Load Reg. (mV)	Line Reg. (mV)	Ripple Noise (mV)	Efficiency (typ) % (230VAC)
GWS500-5	5V	4.5 - 5.5	80	-	50	25	150	84
GWS500-7.5	7.5V	6.75 - 8.25	67.2	-	70	35	150	87
GWS500-12	12V	10.8 - 13.2	42	-	96	48	150	89
GWS500-24	24V	22 - 28.8	21	25.0	192	96	150	90
GWS500-36	36V	32 - 40	14	16.7	288	144	200	90
GWS500-48	48V	42 - 57.6	10.5	-	384	192	300	90

Notes: (1) Peak current 10seconds. 35% duty cycle max. (2) By trim pot provided. Wider adjustment is possible by external voltage control. See instruction manual for details.

Outline Drawing GWS500 Series

SIGNAL CONNECTOR INFORMATION

CN201 PIN ASSIGN

S12B-PHDS(LF)(SN) (JST)

- +Vm
- +S
- Vm
- S
- DCOK
- COM
- 5VSB
- 5V COM
- CNT+
- CNT-
- PV
- COM

==SIGNAL CONNECTOR USED==

PART DESCRIPTION	PART NAME	MANUFACT
PIN HEADER	S12B-PHDS(LF)(SN)	JST

==MATCHING HOUSINGS, PIN & TOOL==

PART DESCRIPTION	PART NAME	MANUFACT
SOCKET HOUSING	PHDR-12VS	JST
TERMINAL PINS	SPHD-002T-P0.5(AWG28~24) SPHD-001T-P0.5(AWG26~22)	JST
HAND CRIMPING TOOL	YRS-620(SPHD-002T-P0.5) YC-610R(SPHD-001T-P0.5)	JST

==ACCESSORIES==

* SHORT PIECE -----1
SHORTING +Vm --- +S, -Vm --- -S, CNT+ --- CNT-
(ATTACHED ON CN201 AT SHIPMENT)

* COVER FOR BARRIER TERMINAL STRIP -----1
(ATTACHED ON TERMINAL AT SHIPMENT)

NAME PLATE :

SEE NOTE A

SCALE 1 : 1

Dimensions (mm):

- Top view: 152.4±0.5 (width), 105.0±1.0 (depth), 63.5±0.5 (height), 20.75 (height), 32.8 (width), 7.1 (height), 21.0 (height), 18(MAX) (height), 12.5 (height), 41.0±1.0 (height).
- Side view: 152.4±0.5 (width), 218.0±1.0 (depth), 32.8 (width), 7.1 (height), 21.0 (height), 18(MAX) (height), 12.5 (height), 41.0±1.0 (height).

Labels: CN201, COVER, SEE NOTE B (TAPPED AT THE BOTTOM CHASSIS), AIR FLOW, DC ON INDICATOR, OUTPUT VOLTAGE ADJUSTMENT, NAME PLATE SEE NOTE A, 7-M4.

NOTES:

A. Model name, Input voltage range, Nominal output voltage, Maximum output current & country of manufacture are shown in accordance with the specification.

B. M4 tapped, embossed & countersunk holes (B) for customer chassis mounting. Screws must not protrude into power supply by more than 5mm

(unit : mm)

MODEL	GWS500
TDK-Lambda	
PA590-02-01	

Mounting Options GWS500 Output Derating according to the Mounting Directi

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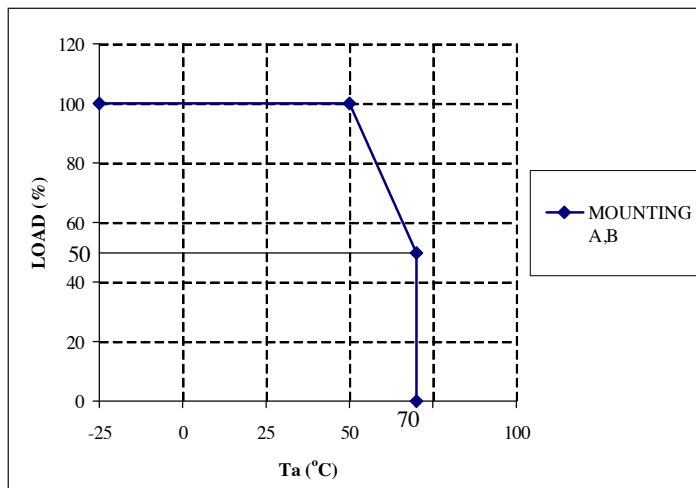
(A) Standard Mounting

(B)

Mounting Method

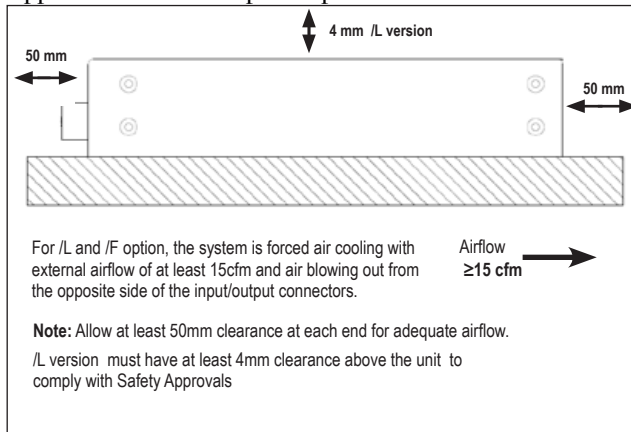
Output Derating according to the Mounting Directions
Recommended standard mounting is Method (A).
Method (B) is also possible.

Output Derating Curve GWS500



Mounting Options GWS500 /L /F options

opposite side of the input/output connectors.



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Options

Suffix	Description
/ T	OTP auto recovery after unit cools down
/ RL	Remote ON/OFF reverse logic (Active High)
/ BAT	Battery charging for 24V (21~29V/17.6A) & 48V (42~58V/8.8A) only
/ F	Full cover without internal fan but require external forced air cooling
/ L	Without cover but require external forced air cooling
/ CO2	Double side coated pcb

MOQs apply to Option models

Please contact your local TDK-Lambda sales office for details.

GWS500 Output Voltage External Control (PV)

Output voltage external control function is available. Output voltage can be varied by applying an external voltage (3–6V) to "PV" terminal and "COM" terminal.

See instruction manual for details.

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